Teradata Vantage™ - Resource Usage Porting Guide

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Chapter 1   Introduction

Teradata Vantage™ is our flagship analytic platform offering, which evolved from our industry-leading Teradata® Database. Until references in content are updated to reflect this change, the term Teradata Database is synonymous with Teradata Vantage.

Teradata Advanced SQL Engine is the core of Teradata Vantage, based on our best-of-breed Teradata Database processing capability. Advanced SQL refers to the ability to run advanced analytic functions beyond that of standard SQL.

This document describes the Advanced SQL Engine Release 17.00 Resource Sampling Subsystem (RSS) changes that affect users of the Resource Usage (ResUsage) tables.

Changes for this release involve conversion of used spare fields to permanent columns, addition of new fields, and removal of moved fields. All major releases of Advanced SQL Engine have ResUsage table dictionary changes because changes are not allowed at other times. ResUsage views affected by the ResUsage table changes are also updated accordingly.

Chapter 2   ResUsage Changes

Used Spare Fields Converted

Spare fields that were used in Teradata Database 16.x are changed to permanent fields in Advanced SQL Engine Release 17.00. New fields were added, and views were updated where the Spare fields were mapped to the final names. Refer to *Teradata Vantage*^{TM} *Resource Usage Macros and Tables*, B035-1099, for a description of the fields.

Table	Release 16.x name	Release 17.00 name
SPMA	Spare03	IoThrottleCount
	Spare04	IoThrottleTime
	Spare05	IoThrottleTimeMax
	Spare16	IoThrottleCntZeroIotas
	Spare17	IoThrottleCntInsuffIotas
	Spare18	IoThrottleCntInsuffIotasHL
	Spare19	IoThrottleCntMaxQD
	Spare00	NosTables
	Spare01	NosPhysReadIOs
	Spare06	NosPhysReadIOKB
	Spare07	NosFiles
	Spare08	NosFilesSkipped
	Spare09	NosRecordsReturned
	Spare10	NosRecordsReturnedKB
	Spare11	NosRecordsSkipped
	Spare12	NosTotalIOWaitTime
	Spare13	NosMaxIOWaitTime
	Spare14	NosCPUTime
	Spare15	PageCacheKB
	SpareInt	TDEnabledCPUs
IPMA	Spare01	ResdTodStartSec
	Spare02	ResdTodStartUsec
	Spare03	ResdTodSleepSec
	Spare04	ResdTodSleepUsec
	Spare05	ResdTodWakeupSec
	Spare06	ResdTodWakeupUsec
	Spare07	ResdReqNum
	SpareInt	ResdWaitTimeMsecs
	Spare08	GatherTodCurrSec
	Spare09	GatherTodCurrUsec
SVPR	Spare13	NosPhysReadIOs
	Spare21	NosPhysReadIOKB
	Spare22	NosFiles
	Spare23	NosFilesSkipped
	Spare24	NosRecordsReturned
	Spare25	NosRecordsReturnedKB

Table	Release 16.x name	Release 17.00 name
	Spare26	NosRecordsSkipped
	Spare27	NosTotalIOWaitTime
	Spare28	NosMaxIOWaitTime
	Spare29	NosCPUTime
	Spare18	TJPurges
	Spare19	TJDbPurgeReads
	Spare20	TJDbPurgeDeletes
	Spare08	RRDHCount
	Spare09	RRDHCascAll
	Spare10	RRDHCascMost
	Spare11	RRDHCascSome
SCPU	Spare00	TDEnabled
SLDV	Reserved2	LdvName
	Spare00	IoThrottleCount
	Spare01	IoThrottleTime
	Spare02	IoThrottleCntZeroIotas
	Spare03	IoThrottleCntInsuffIotas
	Spare04	IoThrottleCntInsuffIotasHL
	Spare05	IoThrottleCntMaxQD
SPDSK	Reserved0	ArrayName
	Spare00	IoThrottleCount
	Spare01	IoThrottleTime
	Spare02	IoThrottleTimeMax
	Spare07	IoThrottleCntZeroIotas
	Spare08	IoThrottleCntInsuffIotas
	Spare09	IoThrottleCntInsuffIotasHL
	Spare17	IoThrottleCntMaxQD
	Spare03	RawReadRespTot
	Spare04	RawWriteRespTot
	Spare05	RawReadRespMax
	Spare06	RawWriteRespMax
SPS	Spare07	IoThrottleTime
	Spare08	IoThrottleTimeMax
	Spare13	IoThrottleCntZeroIotas
	Spare14	IoThrottleCntInsuffIotas
	Spare15	IoThrottleCntInsuffIotasHL
	Spare16	IoThrottleCntMaxQD
	Spare09	ReadRespMax
	Spare10	WriteRespMax
	Spare11	ReadRespTot
	Spare12	WriteRespTot
	Spare00	ProcBlksCpuThrottle
	Spare01	ProcWaitCpuThrottle
	Spare02	RRDHCount
	Spare18	RRDHCascAll
	Spare19	RRDHCascSome

Deleted Fields

The following fields were deleted.

Table	Deleted column
IVPR	TJPurges
	TJDbPurgeReads
	TJDbPurgeDeletes

Added New Fields

Refer to *Teradata Vantage^{TM} - Resource Usage Macros and Tables*, B035-1099, for a description of the fields.

Table	Column name
SVPR	UdfMemInuseKB
	UdfVmSizeKB
SPS	UdfServ
	UdfExec
	UdfServOther
	UdfExecOther
IPMA	SegMDLAlloc09
	SegMDLFree09
	SegMDLRelease09
	SegMDLRecycle09
	SegMDLAlloc10
	SegMDLFree10
	SegMDLRelease10
	SegMDLRecycle10

Reserved Fields

Reserved fields are house-keeping fields reserved for future use. The following reserved fields are new or deleted:

Table	Column Name	Note
SPMA	ReservedS0	New
	ReservedS1	New
	Reserved00	New
	Reserved0	Deleted
	Reserved1	Deleted
	Reserved2	Deleted
IPMA	ReservedS0	New
	ReservedS1	New
	Reserved00	New
	Reserved0	Deleted
	Reserved1	Deleted
	Reserved2	Deleted
SVPR	ReservedS0	New
	ReservedS1	New
	Reserved00	New
	Reserved	Deleted
IVPR	ReservedS0	New
	ReservedS1	New
	Reserved00	New
	Reserved	Deleted
SCPU	ReservedS0	New
	Reserved	Deleted
SHST	ReservedS0	New
	ReservedS1	New
	Reserved	Deleted
	Reserved2	Deleted
SAWT	ReservedS0	New
	Reserved	Deleted
SLDV	ReservedS0	New
	ReservedS1	New
	ReservedS2	New
	Reserved0	Deleted
	Reserved1	Deleted
	Reserved2	Deleted
SPDSK	ReservedS0	New
	ReservedS1	New
	Reserved	Deleted
	Reserved0	Deleted
SVDSK	ReservedS0	New
	Reserved	Deleted
SPS	ReservedS0	New
	ReservedS1	New
	Reserved00	New
	Reserved	Deleted

ResUsage Views

All views contain all the fields in the source table in addition to any combining of fields or other math resulting in new fields. This allows the view to be the primary interface to the ResUsage data rather than the ResUsage tables themselves. Any corrections to any fields in the view can be made without affecting the table, and you do not need to change any reports to pick up the corrected field. Views can be modified without sysinit/tableinit operations.

In this release ResUsage views were updated to be in sync with the updates made to the ResUsage tables.

Field Changes by Tables

This section identifies all the RSS field changes between Teradata Database 16.x and Advanced SQL Engine Release 17.00. Refer to *Teradata Vantage*^{TM} *- Resource Usage Macros and Tables*, B035-1099, for a description of the fields.

SPMA Table

Category	Column	Change	Notes
Housekeeping	ReservedS0	new	Reserved for future use.
	ReservedS1	new	Reserved for future use.
	Reserved00	new	Reserved for future use.
	Reserved0	deleted	
	Reserved1	deleted	
	Reserved2	deleted	
Statistics	IoThrottleCount	converted	Spare03 converted to permanent column.
	IoThrottleTime	converted	Spare04 converted to permanent column.
	IoThrottleTimeMax	converted	Spare05 converted to permanent column.
	IoThrottleCntZeroIotas	converted	Spare16 converted to permanent column.
	IoThrottleCntInsuffIotas	converted	Spare17 converted to permanent column.
	IoThrottleCntInsuffIotasHL	converted	Spare18 converted to permanent column.
	IoThrottleCntMaxQD	converted	Spare19 converted to permanent column.
	NosTables	converted	Spare00 converted to permanent column.
	NosPhysReadIOs	converted	Spare01 converted to permanent column.
	NosPhysReadIOKB	converted	Spare06 converted to permanent column.
	NosFiles	converted	Spare07 converted to permanent column.
	NosFilesSkipped	converted	Spare08 converted to permanent column.
	NosRecordsReturned	converted	Spare09 converted to permanent column.
	NosRecordsReturnedKB	converted	Spare10 converted to permanent column.
	NosRecordsSkipped	converted	Spare11 converted to permanent column.
	NosTotalIOWaitTime	converted	Spare12 converted to permanent column.
	NosMaxIOWaitTime	converted	Spare13 converted to permanent column.
	NosCPUTime	converted	Spare14 converted to permanent column.
	PageCacheKB	converted	Spare15 converted to permanent column.
	TDEnabledCPUs	converted	SpareInt converted to permanent column.

SCPU Table

Category	Column	Change	Notes
Housekeeping	ReservedS0	new	Reserved for future use.
	Reserved	deleted	
Statistics	TDEnabled	converted	Spare00 converted to permanent column.

SLDV Table

Category	Column	Change	Notes
Housekeeping	LdvName	converted	Reserved2 converted to permanent column.
	ReservedS0	new	Reserved for future use.
	ReservedS1	new	Reserved for future use.
	ReservedS2	new	Reserved for future use.
	Reserved0	deleted	
	Reserved1	deleted	
	Reserved2	deleted	
Statistics	IoThrottleCount	converted	Spare00 converted to permanent column.
	IoThrottleTime	converted	Spare01 converted to permanent column.
	IoThrottleCntZeroIotas	converted	Spare02 converted to permanent column.
	IoThrottleCntInsuffIotas	converted	Spare03 converted to permanent column.
	IoThrottleCntInsuffIotasHL	converted	Spare04 converted to permanent column.
	IoThrottleCntMaxQD	converted	Spare05 converted to permanent column.

SVPR Table

Category	Column	Change	Notes
Housekeeping	ReservedS0	new	Reserved for future use.
	ReservedS1	new	Reserved for future use.
	Reserved00	new	Reserved for future use.
	Reserved	deleted	
Statistics	NosPhysReadIOs	converted	Spare13 converted to permanent column.
	NosPhysReadIOKB	converted	Spare21 converted to permanent column.
	NosFiles	converted	Spare22 converted to permanent column.
	NosFilesSkipped	converted	Spare23 converted to permanent column.
	NosRecordsReturned	converted	Spare24 converted to permanent column.
	NosRecordsReturnedKB	converted	Spare25 converted to permanent column.
	NosRecordsSkipped	converted	Spare26 converted to permanent column.
	NosTotalIOWaitTime	converted	Spare27 converted to permanent column.
	NosMaxIOWaitTime	converted	Spare28 converted to permanent column.
	NosCPUTime	converted	Spare29 converted to permanent column.
	TJPurges	converted	Spare18 converted to permanent column.
	TJDbPurgeReads	converted	Spare19 converted to permanent column.
	TJDbPurgeDeletes	converted	Spare20 converted to permanent column.
	RRDHCount	converted	Spare08 converted to permanent column.
	RRDHCascAll	converted	Spare09 converted to permanent column.
	RRDHCascMost	converted	Spare10 converted to permanent column.
	RRDHCascSome	converted	Spare11 converted to permanent column.
	UdfMemInuseKB	new	
	UdfVmSizeKB	new	

SHST Table

Category	Column	Change	Notes
Housekeeping	ReservedS0	new	Reserved for future use.
	ReservedS1	new	Reserved for future use.
	Reserved	deleted	
	Reserved2	deleted	

SPDSK Table

Category	Column	Change	Notes
Housekeeping	ArrayName	converted	Reserved0 converted to permanent column.
	ReservedS0	new	Reserved for future use.
	ReservedS1	new	Reserved for future use.
	Reserved	deleted	
	Reserved0	deleted	
Statistics	IoThrottleCount	converted	Spare00 converted to permanent column.
	IoThrottleTime	converted	Spare01 converted to permanent column.
	IoThrottleTimeMax	converted	Spare02 converted to permanent column.
	IoThrottleCntZeroIotas	converted	Spare07 converted to permanent column.
	IoThrottleCntInsuffIotas	converted	Spare08 converted to permanent column.
	IoThrottleCntInsuffIotasHL	converted	Spare09 converted to permanent column.
	IoThrottleCntMaxQD	converted	Spare17 converted to permanent column.
	RawReadRespTot	converted	Spare03 converted to permanent column.
	RawWriteRespTot	converted	Spare04 converted to permanent column.
	RawReadRespMax	converted	Spare05 converted to permanent column.
	RawWriteRespMax	converted	Spare06 converted to permanent column.

SVDSK Table

Category	Column	Change	Notes
Housekeeping	ReservedS0	new	Reserved for future use.
	Reserved	deleted	

SAWT Table

Category	Column	Change	Notes
Housekeeping	ReservedS0	new	Reserved for future use.
	Reserved	deleted	

SPS Table

Category	Column	Change	Notes
Housekeeping	ReservedS0	new	Reserved for future use.
	ReservedS1	new	Reserved for future use.
	Reserved00	new	Reserved for future use.
	Reserved	deleted	
Statistics	IoThrottleTime	converted	Spare07 converted to permanent column.
	IoThrottleTimeMax	converted	Spare08 converted to permanent column.
	IoThrottleCntZeroIotas	converted	Spare13 converted to permanent column.
	IoThrottleCntInsuffIotas	converted	Spare14 converted to permanent column.
	IoThrottleCntInsuffIotasHL	converted	Spare15 converted to permanent column.
	IoThrottleCntMaxQD	converted	Spare16 converted to permanent column.
	ReadRespMax	converted	Spare09 converted to permanent column.
	WriteRespMax	converted	Spare10 converted to permanent column.
	ReadRespTot	converted	Spare11 converted to permanent column.
	WriteRespTot	converted	Spare12 converted to permanent column.
	ProcBlksCpuThrottle	converted	Spare00 converted to permanent column.
	ProcWaitCpuThrottle	converted	Spare01 converted to permanent column.
	RRDHCount	converted	Spare02 converted to permanent column.
	RRDHCascAll	converted	Spare18 converted to permanent column.
	RRDHCascSome	converted	Spare19 converted to permanent column.
	UdfServ	new	
	UdfExec	new	
	UdfServOther	new	
	UdfExecOther	new	

IPMA Table

Category	Column	Change	Notes
Housekeeping	ReservedS0	new	Reserved for future use.
	ReservedS1	new	Reserved for future use.
	Reserved00	new	Reserved for future use.
	Reserved0	deleted	
	Reserved1	deleted	
	Reserved2	deleted	
Statistics	ResdTodStartSec	converted	Spare01 converted to permanent column.
	ResdTodStartUsec	converted	Spare02 converted to permanent column.
	ResdTodSleepSec	converted	Spare03 converted to permanent column.
	ResdTodSleepUsec	converted	Spare04 converted to permanent column.
	ResdTodWakeupSec	converted	Spare05 converted to permanent column.
	ResdTodWakeupUsec	converted	Spare06 converted to permanent column.
	ResdReqNum	converted	Spare07 converted to permanent column.
	ResdWaitTimeMsecs	converted	SpareInt converted to permanent column.
	GatherTodCurrSec	converted	Spare08 converted to permanent column.
	GatherTodCurrUsec	converted	Spare09 converted to permanent column.
	SegMDLAlloc09	new	
	SegMDLFree09	new	
	SegMDLRelease09	new	
	SegMDLRecycle09	new	
	SegMDLAlloc10	new	
	SegMDLFree10	new	
	SegMDLRelease10	new	
	SegMDLRecycle10	new	

IVPR Table

Category	Column	Change	Notes
Housekeeping	ReservedS0	new	Reserved for future use.
	ReservedS1	new	Reserved for future use.
	Reserved00	new	Reserved for future use.
	Reserved	deleted	
Statistics	TJPurges	deleted	Moved to SVPR.
	TJDbPurgeReads	deleted	Moved to SVPR.
	TJDbPurgeDeletes	deleted	Moved to SVPR.

Appendix A: Glossary

ResUsage   Database tables that contain RSS data that has been logged during system operation.

RSS   Resource Sampling Subsystem collects performance related data for hardware and software involved in the operation of the database.